(see review by Lipowsky and Sackmann, in Handbook of Biological Physics, 1995; Bates, *Science* 251:898 (1991). Based on the work of Hajduk *et al.* (see, *J. Phys. Chem. B* 102:4269 (1998)), the ability of super-amphiphilic block copolymers to form lamellar phases in aqueous solutions can be regulated by both synthetic tuning of polymer chemistry and physical variables, such as concentration and temperature. Evidence has now accumulated that in dilute solutions certain diblock copolymers, such as polyethyleneoxide-polyethylethylene (PEO-PEE, wherein PEO is structural equivalent to PEG), can form not only worm-like micelles (Won *et al.*, *Science* 283:960-3 (1999)), but also unilamellar vesicles (Discher *et al.*, *Science* 284:1143 (1999)).

Please replace the paragraph at page 40, lines 13-21 with the following rewritten paragraph:

Related to the length scales above, the root ratio of moduli, $(K_b/K_a)^{1/2}$, is generally recognized as providing a proportionate measure of membrane thickness (see, *e.g.*, Handbook of Biological Physics, *supra*; Bloom *et al.*, 1991; Needham *et al.*, 1996, chap. 9; and Petrov *et al.*, *Prog. Surf. Sci.* 18:359 (1984)). For the presently described polymersome membranes, $(K_b/K_a)^{1/2}$ = 1.1 nm on average. By comparison, fluid bilayer vesicles of phospholipids or phospholipids plus cholesterol, have reported a ratio of $(K_b/K_a)^2$ = 0.53 to 0.69 nm (Evans *et al.*, 1990; Helfrich *et al.*, 1984). Typically, the fluid bilayer vesicles of phospholipids plus cholesterol have a higher $K_a$ than those of phospholipid alone.

Please replace the section heading at page 45, line 19, with the following rewritten section heading:

Example 3: Polymersomes from Amphiphilic Triblock and Multi-Block Copolymers

**In the Claims:**

Please cancel claims 9, 11 and 12.

Please amend claims 1-8, 10, 13-18 and 20 as follows:

1. (Amended) A polymersome vesicle comprising a semi-permeable, thin-walled encapsulating membrane, wherein the membrane is formed in an aqueous solution, and wherein the membrane comprises one or more synthetic super-amphiphilic molecules.

2. (Amended) The polymersome vesicle of claim 1, wherein at least one super-amphiphile molecule is a block copolymer.

3. (Amended) The polymersome vesicle of claim 2, wherein super-amphiphilic molecules are covalently cross-linked after self assembling into vesicles, and the vesicles remain intact upon exposure to (i) organic solvent, (ii) boiling water, or (iii) dehydration in air or rehydration in aqueous solution.

4. (Amended) The polymersome vesicle of claim 3, comprising a diblock copolymer.